wherein the secondary winding, the input terminals, and the second circuit are coupled together such that the second circuit is supplied by a voltage whose amplitude is equal to the sum of the first DC voltage and the second DC voltage in order to transfer some power from the voltage source directly to the secondary circuit without passing through the transformer, thereby reducing power loss.

REMARKS

All pending claims have been rejected under 35 U.S.C. §103 as being unpatentable over STEVENS in view of TAP.

STEVENS has been cited as disclosing the basic arrangement being claimed, namely the "DC to DC converter that 'generates' a second DC voltage from the first DC voltage", a switching element in this DC-DC converter and a control circuit that controls the switching element at high frequency. The switching regulator 16 apparently is being identified as the claimed "DC to DC converter". The claimed second circuit apparently is identified as the inverter 20 that powers the lamp 11.

It is recognized by the Examiner that STEVENS does not describe the claimed specific arrangement of the DC source. However, it is not clear whether (1) the Examiner is identifying the DC source 70 in STEVENS as the claimed "voltage source for supplying the first circuit with the

first DC voltage" while recognizing that DC source 70 is not specifically arranged as claimed, or whether (2) the Examiner is identifying bridge rectifier 13 as being the claimed voltage source for supplying the first circuit with the first DC voltage while recognizing that the bridge rectifier 13 is not specifically arranged as claimed.

Both alternatives are deficient. The DC source 70 is not connected to supply a voltage to the switching regulator 16 at all (actually it serves to substitute for the switching regulator 16 during a power failure, see col. 8, lines 52-56), so DC source 70 clearly cannot serve as the voltage source for supplying the first circuit (the regulator 16) with a first DC voltage!

Bridge rectifier 13 does supply voltage to the switching regulator 16, but bridge rectifier 13 does not supply a DC voltage! This is clear from col. 4, lines 45-49. Furthermore, STEVENS teaches away from filtering the output of the bridge rectifier 13 to produce a DC voltage (see col. 3, 27-31). Thus, STEVENS fails to teach the claimed input terminals for connection to "a voltage source for supplying the first circuit with the first DC voltage".

More fundamentally, since the regulator 16 of STEVENS is not supplied with DC voltage, the regulator 16 of STEVENS does not qualify even as a DC to DC converter

(i.e., regulator 16 does not generate a second DC voltage from a first DC voltage as claimed).

TAP is cited as disclosing a specific arrangement of a DC source and a DC to DC converter such that the voltage of the DC source and the output voltage of the DC to DC converter are added together to supply a load. While there are many differences between TAP's circuits and the subject circuit, TAP does appear to teach a circuit in which the DC source and the output voltage of a DC to DC converter are added together to supply a load.

The Examiner states that "the great advantage to adding the first DC source to the second involves the protection of such a circuit during a no load condition." The Examiner may believe this, but TAP did not say so or infer so anywhere that can be uncovered. It is true that TAP aims to protect the circuit under a no load condition, but this is accomplished by removing drive current from the bases of transistors 1,2 (or transistor 4 in the second and third embodiments) under a no load condition, which stops the oscillation (see col. 2, lines 59-62). In all embodiments, the base drive current cannot exceed the load current and under a no load condition, the load current is zero.

While TAP does observe that the DC source voltage contributes to the output voltage, no connection is made or

is apparent between this fact and the aim of protecting the circuit under a no load condition. The purpose in having the DC source voltage contribute to the output voltage is undisclosed by TAP, but apparently has nothing to do with control of the base current to transistors 1,2,4 during a no load condition! Perhaps the Examiner can explain how the adding of the DC source voltage to the output of the DC to DC converter protects the circuit during a no load condition.

The Examiner argues that no load conditions are common with lamp circuits and that by "unloading the inverter the DC source also becomes un-loaded presenting a dangerous condition to the converter". Apparently the Examiner is arguing that it is obvious to add the circuit protection taught by TAP to the circuit of STEVENS.

The Examiner is correct that a no load condition is common with lamp circuits. In fact, STEVENS describes that it occurs with an HID lamp during the start-up mode (see col. 7, lines 14-16). What is particularly significant is that the STEVENS circuit is already designed to handle an open circuit load! Not only is the STEVENS circuit designed to handle an open circuit load, but it is designed to generate a very high output voltage under such conditions, which is exactly what is required to get an HID lamp ignited (see col. 7, lines 16-41)! What the Examiner

is suggesting as obvious (adding the no load circuit protection taught by TAP, namely means for causing the base drive current to go to zero under a no load condition) will actually make the STEVENS circuit inoperative to ignite the HID lamp! The STEVENS circuit apparently can handle without danger not only an open circuit output condition (whether this occurs as a result of removal of a lamp or merely the start-up of an HID lamp) but also can handle a short circuit load condition without danger (see col. 7, lines 42-63). There is no apparent incentive to add circuit protection for a no load condition to STEVENS because the STEVENS circuit is already fully protected from all load current extremes.

The matter of the Title requirement apparently has been overlooked and is addressed by this amendment. A new Title is proposed.

Amendment of Claim 1 is proposed also in order to expressly recite that the claimed circuit arrangement is for a discharge lamp and also to expressly recite the purpose in providing to the second circuit a voltage whose amplitude is equal to the sum of the first DC voltage and the second DC voltage, namely to reduce power loss. It has already been assumed by the Examiner that the claimed circuit arrangement is for operating a discharge lamp. While TAP apparently describes a circuit that incidently

adds the DC voltage input to a DC to DC converter to the output DC voltage of the converter, there is no disclosure of any advantage derived therefrom or that the described circuit arrangement will reduce power loss when used to operate a discharge lamp. Accordingly, there is no teaching of an incentive to modify a circuit arrangement for operating a discharge lamp (such circuit arrangements inherently not requiring any protection from a no-load condition).

A Notice of Appeal is attached

CONCLUSIONS

It is believed that all of the pending claims fully meet all of the requirements of 35 U.S.C. § 112 and also distinguish readily over all of the cited art, when taken individually and in combination. Accordingly, allowance of the pending claims is believed to be in order and is respectfully solicited.

Respectfully submitted,

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